

**IN THE UNITED STATES DISTRICT COURT OF SOUTH CAROLINA
CHARLESTON DIVISION**

IN RE: AQUEOUS FILM-FORMING
FOAMS PRODUCTS LIABILITY
LITIGATION

MDL No. 2:18-mn-2873-
RMG

THE COMMONWEALTH OF PUERTO
RICO,

Plaintiff,

-vs -

THE 3M COMPANY, f/k/a Minnesota Mining and Manufacturing Co., AGC CHEMICALS AMERICAS INC., AMEREX CORPORATION, ARCHROMA U.S. INC., ARKEMA INC., BASF CORPORATION, individually and as successor in interest to Ciba Inc., BUCKEYE FIRE EQUIPMENT COMPANY, CARRIER FIRE & SECURITY AMERICAS CORPORATION, f/k/a UTC Fire & Security Americas Corporation, CARRIER FIRE & SECURITY CORPORATION, f/k/a UTC Fire & Security Corporation, CARRIER GLOBAL CORPORATION, CHEMDESIGN PRODUCTS INC., CHEMGUARD INC., CHEMICALS, INC., CLARIANT CORPORATION, individually and as successor in interest to Sandoz Chemical Corporation, CORTEVA, INC., individually and as successor in interest to DuPont Chemical Solutions Enterprise, DEEPWATER CHEMICALS, INC., DUPONT DE NEMOURS INC., individually and as successor in interest to DuPont Chemical Solutions Enterprise, DYNAX CORPORATION, E. I. DU PONT DE NEMOURS AND COMPANY, individually and as successor in interest to DuPont Chemical Solutions Enterprise, FIRE SERVICE PLUS, INC., NATION FORD CHEMICAL COMPANY, NATIONAL FOAM, INC., THE CHEMOURS COMPANY, individually and

Case No.: 2:23-cv-02351-RMG

COMPLAINT

Jury Trial Demanded

as successor in interest to DuPont Chemical Solutions Enterprise, THE CHEMOURS COMPANY FC, LLC, individually and as successor in interest to DuPont Chemical Solutions Enterprise, TYCO FIRE PRODUCTS, LP, individually and as successor in interest to The Ansul Company, and JOHN DOE DEFENDANTS 1-10,	
---	--

Defendants.

COMPLAINT

Plaintiff, the Commonwealth of Puerto Rico (“the Commonwealth”), brings this action against the 3M Company (“3M”); Tyco Fire Products LP (“Tyco”); Chemguard, Inc (“Chemguard”); Buckeye Fire Equipment Company (“Buckeye”); Carrier Fire & Security Americas Corporation; Carrier Fire & Security Corporation; Carrier Global Corporation (“Carrier Global”); Fire Service Plus, Inc. (“Fire Service Plus”); Amerex Corporation (“Amerex”); Arkema, Inc. (“Arkema”); BASF Corporation (“BASF”); ChemDesign Products Inc. (“ChemDesign”); Chemicals, Inc.; Corteva, Inc. (“Corteva”); Deepwater Chemicals, Inc. (“Deepwater”); DuPont de Nemours Inc. (“New DuPont”); Nation Ford Chemical Company (“Nation Ford”); AGC Chemicals Americas, Inc. (“AGC Chemicals”); Dynax Corporation (“Dynax”); Clariant Corporation (“Clariant”); E. I. du Pont de Nemours and Company (“DuPont”); National Foam, Inc. (“National Foam”); The Chemours Company (“Chemours”); The Chemours Company FC, LLC (“Chemours FC”); Archroma U.S., Inc. (“Archroma”), and John Doe Defendants 1 through 10 (Names Fictitious) (collectively “Defendants”) to recover all available remedies in both law and equity owed to the Commonwealth due to Defendants’ violations of law. In support of its claims, the Commonwealth states as follows:

INTRODUCTION

1. The natural resources of the Commonwealth, including its surface water, groundwater, soil, plants, fish, and wildlife are precious and invaluable public resources that are owned and held in trust for the citizens of Puerto Rico which the Commonwealth has the authority and responsibility to protect. *See* Puerto Rico Const. Art. VI, § 19; 12 L.P.R.A. § 80001a.

2. However, the Commonwealth's natural resources have been, and continue to be, contaminated by toxic chemicals known as per- and polyfluoroalkyl substances ("PFAS") released through the use of aqueous film-forming foam ("AFFF") in areas in the Commonwealth. PFAS are man-made and have been dubbed "forever chemicals" because they do not readily break down in the environment. These forever chemicals are also highly mobile. Once released into the environment, they cause widespread contamination by traveling through surface water and through the soil entering the groundwater. These chemicals then wreak havoc at each level of the food chain, bioaccumulating in plants, fish, wildlife, and eventually humans.

3. Perfluorooctane sulfonic acid ("PFOS") and perfluorooctanoic acid ("PFOA") are two of the most commonly used PFAS and are a component of AFFF. AFFF has been used for decades by the military, commercial airports, municipal fire departments, and other commercial and industrial facilities for fighting and training to fight liquid-based fires. It is one of the largest contributors to PFAS contamination. AFFF has been used at several airports and military installations within the Commonwealth. The use of AFFF Products within the Commonwealth contaminated the Commonwealth's natural resources with PFAS.

4. The damage to the Commonwealth and its citizens from PFAS contamination is devastating. AFFF has been linked to extraordinarily high levels of PFOS and PFOA (over

11,000 parts per trillion (“ppt”)) in the Commonwealth’s groundwater. Much of this contamination occurred within three miles of the Commonwealth’s largest city, San Juan, whose sole supply of drinking water is groundwater now contaminated with PFAS.

5. PFOS and PFOA are associated with a wide array of adverse health effects. Research indicates that exposure to PFOS and PFOA may increase cholesterol levels, cause liver damage or changes in liver function, decrease how well the body responds to vaccines, increase the risk of serious conditions like high blood pressure or preeclampsia in pregnant women, lower infant birth weights, and be associated with a higher risk of kidney or testicular cancer. The Commonwealth has some of the highest rates of adverse health outcomes for children and pregnant women, which have been linked to environmental contaminants, including PFAS.

6. At various times from the 1960s through today, Defendants designed, manufactured, marketed, and sold AFFF or its component fluorochemicals and/or fluorosurfactants that contain PFAS (collectively “AFFF Products”). On information and belief, Defendants’ AFFF Products were marketed, sold, and used in the Commonwealth, and Defendants together controlled all or substantially all of the AFFF Product market in the Commonwealth.

7. For decades, Defendants were fully aware of the toxic nature of PFAS and the negative impact those substances have on the environment and human health. Despite that knowledge, Defendants continued to manufacture, market, and sell AFFF Products within the Commonwealth. The Commonwealth thus seeks to require Defendants to pay all costs necessary to fully investigate, remediate, treat, assess, and restore the Commonwealth’s land, waters, sediments, plants, and other natural resource contaminated by their AFFF Products. The Commonwealth also seeks from Defendants all damages, including property damages, economic

damages, punitive damages, and all other damages, fees, costs, and equitable relief to which the Commonwealth may be entitled.

PARTIES

A. Plaintiff

8. The Government of the Commonwealth of Puerto Rico is an unincorporated territory of the United States with official Commonwealth status. The Commonwealth controls the surface and ground water, lands, and other natural resources for the benefit of the People of Puerto Rico. HIST L.P.R.A. § 7. The Department of Justice, headed by the Secretary of Justice, is the agency of the Executive Branch with authority to bring civil suits on behalf of the Commonwealth. The Commonwealth brings this action on behalf of itself and on behalf of the Commonwealth's citizens pursuant to its *parens patriae* authority.

B. AFFF Defendants

9. **Defendant 3M Company ("3M")** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 3M Center, St. Paul, MN 55144-1000. From the mid 1960s through 2002, 3M designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOS and PFOA and/or their chemical precursors, in the United States under the brand name Light Water. 3M also sold fluorochemicals containing PFAS, including PFOS and PFOA and/or their chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

10. **Defendant Tyco Fire Products LP ("Tyco")** is a limited partnership organized under the laws of the State of Delaware, with its principal place of business located at One Stanton Street, Marinette, WI 54143-2542. Tyco is the successor in interest of the Ansul Company ("Ansul"), having acquired Ansul in 1990. Beginning in 1975, Ansul designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOA and/or

its chemical precursors, under the brand name Ansulite. After Tyco acquired Ansul in 1990, Tyco/Ansul have continued to design, manufacture, market, distribute, and sell AFFF Products containing PFAS, including PFOA and/or its chemical precursors, in the United States.

11. **Defendant Chemguard, Inc. (“Chemguard”)** is a corporation organized under the laws of the State of Texas, with its principal place of business located at One Stanton Street, Marinette, WI 54143-2542. Since 1992, Chemguard has designed, manufactured, marketed, distributed, and sold AFFF Products containing PFAS, including PFOA and/or its chemical precursors, under the brand name “Chemguard.” Chemguard was acquired by Tyco in 2011 and Tyco/Chemguard have continued to design, manufacture, market, distribute, and sell AFFF Products containing PFAS, including PFOA and/or its chemical precursors, in the United States.

12. Chemguard acquired Ciba Specialty Chemical Corporation’s (“Ciba”) fluorosurfactants business in 2003. Ciba/Chemguard designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFAS, including PFOA and/or its chemical precursors, for use in AFFF Products in the United States.

13. **Defendant Buckeye Fire Equipment Company (“Buckeye”)** is a corporation organized under the laws of the State of Ohio, with its principal place of business located at 110 Kings Road, Kings Mountain, NC 28086. From around 2003 to 2017, Buckeye designed, manufactured, marketed, distributed, and sold AFFF Products containing PFAS, including PFOA and/or its chemical precursors, under brand names including Buckeye Platinum in the United States.

14. **Defendant National Foam, Inc. (“National Foam”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 141 Junny

Road, Angier, NC 27501. In 1973, National Foam started designing, manufacturing, marketing distributing, and selling AFFF containing PFAS, including PFOA and/or its chemical precursors.

15. National Foam merged with Chubb Fire Ltd. to form Chubb National Foam, Inc. in or around 1988. Chubb National Foam, Inc. is or has been composed of different subsidiaries and/or divisions, including but not limited to, Chubb Fire & Security Ltd., Chubb Security, PLC, Red Hawk Fire & Security, LLC, and/or Chubb National Foam, Inc. (collectively referred to as “Chubb”).

16. Chubb was acquired by Williams Holdings in 1997. On information and belief, Angus Fire Armour Corporation (“Angus”) had previously been acquired by Williams Holdings in 1994. On information and belief, Williams Holdings was demerged into Chubb and Kidde P.L.C. in or around 2000. When Williams Holdings was demerged, Kidde P.L.C. became the successor in interest to National Foam and Angus. Kidde P.L.C. was acquired by United Technologies Corporation in or around 2005. Angus and National Foam separated from United Technologies Corporation in or around 2013.

17. National Foam under its own name and/or as Chubb and/or Angus has designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOA and/or its chemical precursors, from around 1973 through present in the United States under brand names including Angus, Aer-O-Lite, Aer-O-Water, Universal, and Centurion.

18. **Defendant Carrier Global Corporation** (“Carrier Global”) is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Boulevard, Palm Beach Gardens, FL 33418-7231.

19. On information and belief, Carrier Global was formed in March 2020 when United Technologies Corporation spun off its fire and security business before it merged with

Raytheon Company in April 2020. Carrier Global is the ultimate corporate parent and owner or Kidde-Fenwal, Inc (“Kidde”), Carrier Fire & Security Americas Corporation, Carrier Fire & Security Americas Corporation.

20. Kidde was an operating subsidiary of Kidde P.L.C. and designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOA and/or its chemical precursors, in the United States following Kidde P.L.C.’s acquisition by United Technologies Corporation in 2005 through 2013 when Kidde divested the AFFF business unit to National Foam. On information and belief Carrier Global assumed liability for certain PFAS liabilities from its predecessor United Technology Corporation including liability related to its subsidiary Kidde.¹

21. **Defendant Carrier Fire & Security Americas Corporation** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Blvd. Palm Beach Gardens, FL 33418-7231.

22. On information and belief Carrier Fire & Security Americas Corporation is a wholly owned subsidiary of Carrier Global which wholly owns the holding company Kidde-Fenwal Protection, Inc. that wholly owns Kidde.

23. **Defendant Carrier Fire & Security Corporation** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Boulevard, Palm Beach Gardens, FL 33418-7231.

24. On information and belief, Carrier Fire & Security Corporation wholly owns Kidde-US Holdings Inc., a holding company organized under the State of Delaware which wholly owns Carrier Fire and Safety Americas.

¹ Kidde-Fenwal, Inc. has since filed for bankruptcy.

25. **Defendant Fire Service Plus, Inc. (“Fire Service Plus”)** is a corporation organized under the laws of the State of Georgia, with its principal place of business at 473 Dividend Drive, Peachtree City, GA 30269. Since around 2014, Fire Service Plus has designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOA and/or its chemical precursors, in the United States under the brand name FireAde.

26. **Defendant Amerex Corporation (“Amerex”)** is a corporation organized and existing under the laws of the State of Alabama, with its principal place of business located at 7595 Gadsden Highway, Trussville, AL 35173. In 2011, Amerex acquired Solberg Scandinavian AS, one of the largest manufacturers of AFFF Products in Europe. On information and belief, since 2011, Amerex has designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including PFOA and/or its chemical precursors, in the United States under the brand name Amerex.

C. Fluorosurfactant and Fluorochemical Defendants²

27. **Defendant Dynax Corporation (“Dynax”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 103 Fairview Park Drive, Elmsford, NY 10523. Dynax entered into the PFAS chemical market on or about 1991 and quickly became a leading global producer of fluorosurfactants and fluorochemical stabilizers containing PFAS, including PFOA, and/or its chemical precursors. Since 1991, Dynax has designed, manufactured, marketed, distributed, and sold fluorosurfactants and fluorochemical stabilizers containing PFAS, including PFOA, and/or its chemical precursors, for use in AFFF Products in the United States.

² This section sets forth Defendants who manufactured and sold fluorosurfactants and fluorochemicals but did not manufacture and sell AFFF. Some Defendants listed under AFFF Defendants also manufactured and sold fluorochemicals for producing AFFF as indicated in that section.

28. **Defendant Arkema, Inc. (“Arkema”)** is a corporation organized and existing under the laws of Pennsylvania, with its principal place of business at 900 First Avenue, King of Prussia, PA 19406. Arkema is an operating subsidiary of Arkema France, S.A. Arkema Inc. is a successor in interest to Atochem North America Inc., Elf Atochem North America, Inc., and Atofina Chemicals, Inc. Arkema and/or its predecessors designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFAS, including PFOA, and/or its chemical precursors, for use in AFFF Products in the United States.

29. **Defendant BASF Corporation (“BASF”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 100 Park Avenue, Florham Park, NJ 07932.

30. BASF is the successor in interest to Ciba. Inc. (f/k/a Ciba Specialty Chemicals Corporation). Ciba Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF Products.

31. **Defendant ChemDesign Products Inc. (“ChemDesign”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 2 Stanton Street, Marinette, WI 54143. On information and belief, ChemDesign designed, manufactured, marketed, distributed, and sold fluorosurfactants and/or fluorochemicals containing PFOA, and/or its chemical precursors for use in AFFF Products in the United States.

32. **Defendant AGC Chemicals Americas, Inc. (“AGC”)** is a corporation organized under the laws of Delaware, having its principal place of business at 55 East Uwchlan Avenue, Suite 201, Exton, PA 19341. AGC was formed in 2004 and is a subsidiary of AGC Inc., a

foreign corporation organized under the laws of Japan, with its a principal place of business in Tokyo, Japan.

33. On information and belief, AGC designed, manufactured, marketed, distributed, and sold fluorochemicals containing PFAS, including PFOA and/or its chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

34. **Defendant Archroma U.S., Inc. (“Archroma”)** is a corporation organized under the laws of Delaware, with its a principal place of business at 5435 77 Center Drive, Charlotte, NC 28217. Archroma was formed in 2013 when Clariant Corporation divested its textile chemicals, paper specialties, and emulsions business to SK Capital Partners. On information and belief, Archroma designed, manufactured, marketed, distributed, and sold fluorochemicals containing PFAS, including PFOA and/or its chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

35. **Defendant Chemicals, Inc.** is a corporation organized and existing under the laws of Texas, with its principal place of business located at 12321 Hatcherville, Baytown, TX 77520. On information and belief, Chemicals, Inc. supplied fluorochemicals containing PFAS, including PFOA and/or its chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

36. **Defendant Clariant Corporation (“Clariant”)** is a corporation organized and existing under the laws of New York, with its principal place of business at 1600 West Hill Street, Louisville, KY 40210.

37. Clariant is the successor in interest to the specialty chemicals business of Sandoz Chemical Corporation (“Sandoz”). Sandoz spun off its specialty chemicals business to form Clariant in 1995. On information and belief, Clariant supplied fluorochemicals containing PFAS,

including PFOA and/or its chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

38. **Defendant Nation Ford Chemical Co. (“Nation Ford”)** is a corporation organized and existing under the laws of South Carolina, with its principal place of business located at 2300 Banks Street, Fort Mill, SC 29715. On information and belief, Nation Ford supplied fluorochemicals containing PFAS, including PFOA and/or its chemical precursors, for use in manufacturing the fluorosurfactants used in AFFF Products in the United States.

39. **Defendant Deepwater Chemicals, Inc. (“Deepwater”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 196122 E County Road 40, Woodward, OK 73801. On information and belief, Deepwater designed, manufactured, marketed, distributed, and sold fluorosurfactants and/or fluorochemicals containing PFAS, including PFOA and/or its chemical precursors, for use in AFFF Products in the United States.

40. **Defendant E.I. du Pont de Nemours and Company (“DuPont”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 974 Centre Road, Wilmington, DE 19805.

41. On information and belief, DuPont is the successor in interest to DuPont Chemical Solutions Enterprise. DuPont has designed, manufactured, marketed, and sold fluorosurfactants containing PFAS, including PFOA and/or its chemical precursors, for use in AFFF Products in the United States.

42. **Defendant The Chemours Company (“Chemours”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, Wilmington, DE 19899. In 2015, DuPont spun off its performance chemicals

business to Chemours, along with vast environmental liabilities, including those related to PFAS. Chemours has designed, manufactured, marketed, and sold fluorosurfactants containing PFAS, including PFOA and/or its chemical precursors, for use in AFFF Products in the United States.

43. **Defendant The Chemours Company FC, LLC (“Chemours FC”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, Wilmington, DE 19899. Chemours FC operates as a subsidiary of Chemours Co. and manufactures fluoropolymer resins.

44. **Defendant DuPont de Nemours, Inc., f/k/a DowDuPont, Inc., (“New DuPont”)** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 974 Centre Road, Wilmington, DE 19805. In 2015, after DuPont spun off Chemours DuPont merged with the Dow Chemical Company (“Dow”) and transferred DuPont’s historic assets and liabilities to other entities, including New DuPont. New DuPont does business throughout the United States.

45. **Defendant Corteva, Inc. (“Corteva”)** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at P.O. Box 80735, Chestnut Run Plaza 735, Wilmington, DE 19805. In 2019, New DuPont spun off a new, publicly traded company, Corteva, which currently holds DuPont as a subsidiary. In connection with these transfers, Corteva assumed certain DuPont liabilities. Corteva does business throughout the United States.

46. The above Defendants DuPont, Chemours, Chemours FC, New DuPont, and Corteva are collectively referred to as “DuPont” or “DuPont Defendants” throughout this Complaint.

47. **Defendants John Does 1 through 10:** The true names and capacities, whether corporate, associate, partnership, or otherwise, of Defendants sued herein as John Does 1 through 10, inclusive, are unknown to the Commonwealth. As such, the Commonwealth references said Defendants by fictitious names. The Commonwealth alleges that Defendants John Does 1 through 10 are manufacturers of AFFF, manufacturers of PFAS-containing fluorochemicals and/or fluorosurfactants used to make AFFF, and/or distributors of AFFF Products that are in some manner responsible for the Commonwealth's injuries and losses. The Commonwealth will seek leave to amend this Complaint to allege the true names of John Does 1 through 10 once they have been ascertained.

48. The above Defendants represent all or substantially all of the market for AFFF and PFOA and PFOS component parts for the Commonwealth.

JURISDICTION AND VENUE

49. This Court has jurisdiction over this matter pursuant to 28 U.S.C. §1331 as some of the Commonwealth's claims related to AFFF-product use and contamination at some United States' military installations that were federal enclaves within the Commonwealth during some of the time period in which the alleged conduct occurred. *See In re Aqueous Film-Foaming Prods. Liab. Litig.*, No. 2:18-mn-2873-RMG, MDL 2873, dkt. 103 (D.S.C. May 24, 2019). This Court has supplemental jurisdiction over all other claims under 28 U.S.C. § 1367(a). This designation shall not be treated as a waiver as to any applicable arguments regarding the application of Puerto Rico law to the claims asserted by the Commonwealth.

50. Pursuant to this Court's Case Management Order No. 3 ("CMO 3") for MDL 2873, this Complaint is filed as an original action in the United States District Court for the District of South Carolina.

51. But for CMO 3, Plaintiff would have filed this Complaint in the United States District Court for the District of Puerto Rico. In accordance with CMO 3, Plaintiff designates as Plaintiff's Home Venue the United States District Court for the District of Puerto Rico, being the proper venue of origin where the Plaintiff's claims could otherwise have been brought pursuant to 28 U.S.C. § 1391.

52. Venue is proper in the United States District Court for the District of Puerto Rico because it is the judicial district for the Plaintiff, in which the property that is the subject of Plaintiff's claims is situated, and where a substantial part of the events or omissions giving rise to Plaintiff's claims occurred.

53. This Court has personal jurisdiction over Defendants by virtue of each Defendants' regular and systematic contacts with Puerto Rico, including, among other things, purposefully marketing, selling and/or distributing their AFFF Products to and within Puerto Rico, and because they have the requisite minimum contacts with Puerto Rico necessary to constitutionally permit the Court to exercise jurisdiction over them consistent with traditional notions of fair play and substantial justice.

FACTUAL ALLEGATIONS

I. **PFAS Are Dangerous Chemicals That Threaten the Environment and Human Health.**

54. PFAS are a class of thousands of chemicals that include carbon chains containing at least one carbon atom on which some or all hydrogen atoms are replaced by fluorine atoms. All PFAS chemicals are entirely manmade and do not occur in nature. PFOA and PFOS are two of the most widely used and studied chemicals in the PFAS class. PFOA and PFOA are referred to as "long chain" PFAS because they include eight or more carbon-fluorine bonds.

55. The carbon-fluorine bond in PFAS is one of the strongest bonds in chemistry. As a result, PFAS, including PFOA and PFOS are thermally, chemically, and biologically stable. PFOS and PFOA persist in the environment indefinitely because they are resistant to being broken down by acid, bases, heat, or oxidants.

56. Once introduced into the environment, PFOA and PFOS also spread quickly because they easily dissolve in water. Once these “forever chemicals” are introduced, they migrate through the surrounding environment through surface water, soil, and groundwater. In short, once introduced in one area, PFOA and PFOS are likely to contaminate a large area of natural resources and are difficult and costly to remove.

57. Once even a small amount of PFOA and PFOS enters the soil and water system it can have large impacts on plants, fish, wildlife, and human health. Studies have shown that PFAS are passed on to plants through their root systems, where they bioaccumulate (or build up), and then are passed up through the food chain. PFOA and PFOS have also been found to bioaccumulate and persist in fish and wildlife. These chemicals are very slowly excreted from organisms, so ongoing exposure to even a very small amount can result in a build-up of PFAS over time.³ PFAS also bio-magnify, meaning that their concentration in organic tissue increases as they are consumed up the food chain.

58. The primary non-occupational routes for PFAS exposure for humans are through contaminated drinking water and diet—for which fish and other seafood contain the highest concentrations. Proximity to a contamination site is associated with higher levels of PFAS contamination in fish, wildlife, and water. Many biomonitoring studies have shown PFAS in

³ EPA Fact Sheet, *EPA’s Proposal to Limit PFAS in Drinking Water* (Mar. 2023), at 1, available at https://www.epa.gov/system/files/documents/2023-04/Fact%20Sheet_PFAS_NPWDR_Final_4.4.23.pdf.

drinking water near contaminated sites are associated with increases in PFAS blood levels in nearby human populations.

59. Moreover, treatment of PFAS contamination is both challenging and costly because of their chemical complexity and stability. Current municipal wastewater treatment systems have been found ineffective in dealing with PFAS. Additionally, PFAS are not removed by conventional drinking water treatment systems.

60. PFOS and PFOA exposure is associated with a wide array of harmful and serious health effects such as: (1) adverse reproductive and developmental effects, including pregnancy-induced hypertension, preeclampsia and decreased birthweight; (2) decreases in antibody response to vaccines; (3) increases in risk of childhood infections; (4) testicular and kidney cancer; and (5) liver damage and high cholesterol.

61. In 2016, the National Toxicology Program of the United States Department of Health and Human Services (“NTP”) and the International Agency for Research on Cancer (“IARC”) both released extensive analyses of research regarding the adverse effects of fluorochemicals. The NTP concluded that both PFOA and PFOS are presumed to be an immune hazard to humans.⁴

62. The United States Environmental Protection Agency (“EPA”) has also recognized the health risks associated with exposure to PFOA and PFOS. In 2016, the EPA established its first health advisory level (“HAL”) for combined PFOS and PFOA in drinking water at 70 ppt.⁵ In June of 2022, the EPA introduced new interim health advisories which significantly lowered

⁴ See U.S. Dep’t of Health and Human Servs., Nat’l Toxicology Program, *NTP Monograph: Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid or Perfluorooctane Sulfonate* (Sept. 2016), at 1, 17, 19, available at https://ntp.niehs.nih.gov/ntp/ohat/pfoa_pfos/pfoa_pfosmonograph_508.pdf.

⁵ *Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate*, 81 Fed. Reg. 101, 33250 (May 25, 2016).

the HAL for PFOS and PFOA. The 2022 HAL for PFOA is .004 ppt and for PFOS is .02 ppt.⁶ In setting these new interim HALs, the EPA relied on “data and draft analyses that indicate that the levels at which negative health effects could occur are much lower than previously understood when the agency issued its 2016 health advisories for PFOA and PFOS.”⁷

63. On March 14, 2023, the EPA proposed a new National Primary Drinking Water Regulation (“NPDWR”) that would set the enforceable maximum containment levels (“MCL”) for PFOA and PFOS in drinking water at 4.0 ppt.⁸ The EPA proposed setting the non-enforceable MCL goal for PFOA and PFOS at zero because there is no dose of either chemical that is considered safe.⁹ However, the MCL was set at 4.0 ppt because that is the lowest reliable detection rate for these chemicals under currently available technology. The EPA also proposed setting an enforceable combined limit on any mixture containing one or more of the following PFAS: PFNA, PFHxS, PFBS, and GenX based on a hazard index. Once promulgated, States and water providers will be responsible for notification to residents and treatment of drinking water with PFAS levels higher than the MCLs.

64. On September 6, 2022, the EPA also initiated a proposed rulemaking to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”).¹⁰ In support of this rulemaking, the EPA stated that “evidence indicates that these chemicals may present substantial danger to public health or welfare or the environment when released into the environment.”¹¹

⁶ *Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances*, 87 Fed. Reg. 118, 36848, 36849 (June 21, 2022).

⁷ *Id.*

⁸ EPA Fact Sheet, *supra*, at 1.

⁹ Pre-Publication Federal Register Notice: PFAS National Primary Drinking Water Regulation Rulemaking (Mar. 2023), at 2, available at <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>.

¹⁰ *Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances*, 87 Fed. Reg. 171, 54415 (Sept. 6, 2022).

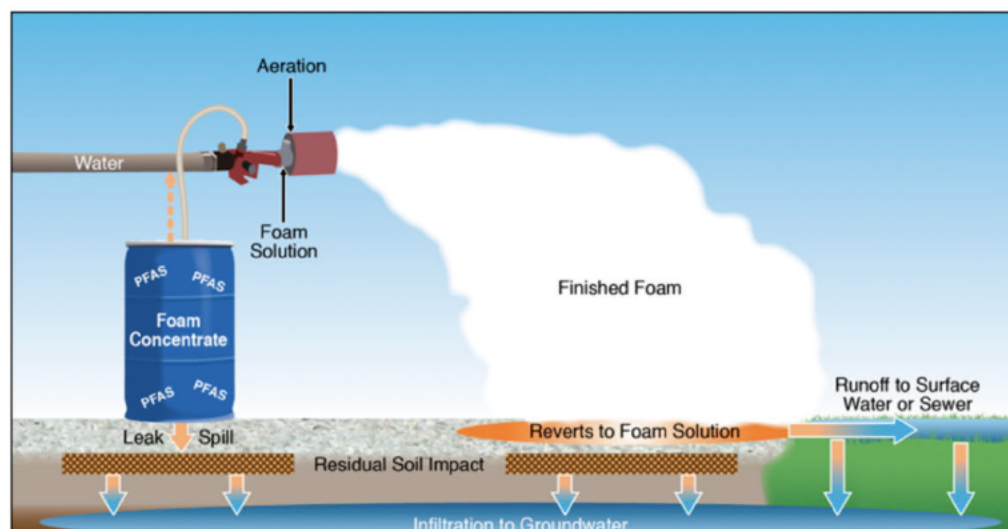
¹¹ *Id.* at 54417.

II. AFFF is Recognized as One of the Largest Contributors to PFAS Contamination.

65. PFAS, in particular PFOS and PFOA and/or their chemical precursors, have historically been included in fluorosurfactants used in AFFF. AFFF is a type of Class B firefighting foam specifically formulated using fluorosurfactants to extinguish flammable liquid fires. When applied to a fire, the fluorosurfactants in AFFF provide a film over the fuel surface to isolate it from oxygen and provide protection against re-ignition.

66. When the AFFF is mixed with water a foam solution is formed. That foam is then intentionally applied to a surface or on the ground to extinguish a fire or during training. When AFFF is used as intended it can cause hundreds, if not thousands, of gallons of water laced with PFAS to enter the environment.

67. The following illustration portrays how AFFF spreads in the environment:



Sourced from the Interstate Technology Regulatory Council at https://pfas-1.itrcweb.org/3-firefighting-foams/#3_1

68. AFFF has routinely been discharged at Department of Defense (“DOD”) military sites since the late 1960s. The DOD published military specifications (“MILSPEC”) for AFFF beginning in 1969, requiring military bases to use AFFF for firefighting purposes. Soon after, many airports began adopting the use of AFFF; and beginning in 2004, the Federal Aviation

Agency (“FAA”) has required MILSPEC AFFF to be used at certain commercial airports.¹²

Because of the repeated and prolonged use of AFFF at military sites and commercial airports, some have argued that these sites should be considered presumptively contaminated by PFAS.

69. In the late 2000s, AFFF began being replaced with fluorine-free foam (“F3”) or a version of AFFF that uses short-chain PFAS chemicals rather than PFOS and PFOA, referred to as “C6-AFFF” or “current-use AFFF.” In comparison, AFFF that includes PFOA and PFOS is sometimes referred to as “Legacy AFFF” or “C8-AFFF.” The rise in current-use AFFF and F3 tracks with increased awareness of the serious health impacts and regulation of long-chain PFAS like PFOS and PFOA.

70. In December 2019, Congress passed the National Defense Authorization Act for Fiscal Year 2020 (“2020 NDAA”), which introduced new prohibitions on the use of AFFF for land-based applications.¹³ Section 322 of the Act introduced a timeline for the phasing out of AFFF use by the military. First, the Secretary of the Navy had to publish a new military specification for a fluorine-free fire-fighting agent for use at all military installations by January 31, 2023. Second, Department of Defense organizations will no longer be authorized to purchase AFFF containing more than 1 part per billion of PFAS after October 1, 2023. Third, after October 1, 2024, this prohibition will extend to the use of any PFAS-containing AFFF at any military installation.

71. On January 6, 2023, the Defense Logistics Agency within the Department of Defense published a new Military Specification for “Fire Extinguishing Agent, Fluorine-Free Foam (F3) Liquid Concentrate, for Land-Based, Fresh Water Application,” MIL-PRF-32725

¹² 14 C.F.R. § 139.317.

¹³ National Defense Authorization Act for Fiscal Year 2020, S. 1790, 116th Congress (Jan. 3, 2019).

(“F3 MILSPEC”).¹⁴ This new specification will govern fire extinguishing foams used by all Department of Defense organizations and will require such foams to test non-detect for PFAS. The specification further requires manufacturers to certify in writing that PFAS has not intentionally been added to the concentrate.

72. After the F3 MILSPEC was released, the FAA released a CertAlert notifying Aircraft Rescue and Fire Fighting Departments of the new F3 MILSPECS and stating that the FAA will accept use of the new F3 agent to be used at commercial airports once it is added to the Navy’s Qualified Products’ List.¹⁵ However, the FAA allowed airport operators to continue using MILSPEC AFFF that contains PFAS.

73. Even with increased regulation, AFFF continues to contribute to significant PFAS contamination. These contaminants persist in the environment and can cause harm to the environment and human health years after being discharged. Additionally, AFFF has an extended shelf life, and may still be applied years after manufacturing has halted.

74. The use of AFFF for firefighter training, emergency response, and equipment maintenance has resulted in concentrated PFAS contamination in areas throughout the United States. PFAS contamination is expected wherever AFFF had been discharged, including military sites, major airports, fire training areas, and some fire suppression locations.

75. It has long been recognized that the use of AFFF is associated with many of the highest environmental concentrations of PFOA and PFOS. Landscapes and water systems adjacent to areas of AFFF use often have high levels of PFOA and PFOS in soil, surface water,

¹⁴ Defense Logistics Agency, *Performance Specification Fire Extinguishing Agent, Fluorine-Free Foam (F3) Liquid Concentrate, for Land-Based, Fresh Water Applications*, Doc. ID: MIL-PRF-32725 (Jan. 6, 2023), available at https://quicksearch.dla.mil/qsDocDetails.aspx?ident_number=285047.

¹⁵ Federal Aviation Administration National Part 139 CertAlert, *New Military Specification for Performance-Based Standards for Fluorine-Free Aircraft Fire Fighting Foam*, No. 23-01 (Jan. 12, 2023), at 2, available at https://www.faa.gov/sites/faa.gov/files/part-139-cert-alert-23-01-F3_3.pdf.

groundwater, drinking water, plants, fish, and wildlife. Unfortunately, this has proven true in the Commonwealth.

III. The Commonwealth's Natural Resources are Heavily Contaminated by PFAS Traceable to AFFF.

76. The Commonwealth's natural resources, including its soils, sediments, ground water and surface water have been contaminated by PFAS. On information and belief, the contamination to the Commonwealth's natural resources was caused by the use, release, spill, transport, storage, disposal, and/or handling of Defendants' AFFF Products within the Commonwealth.

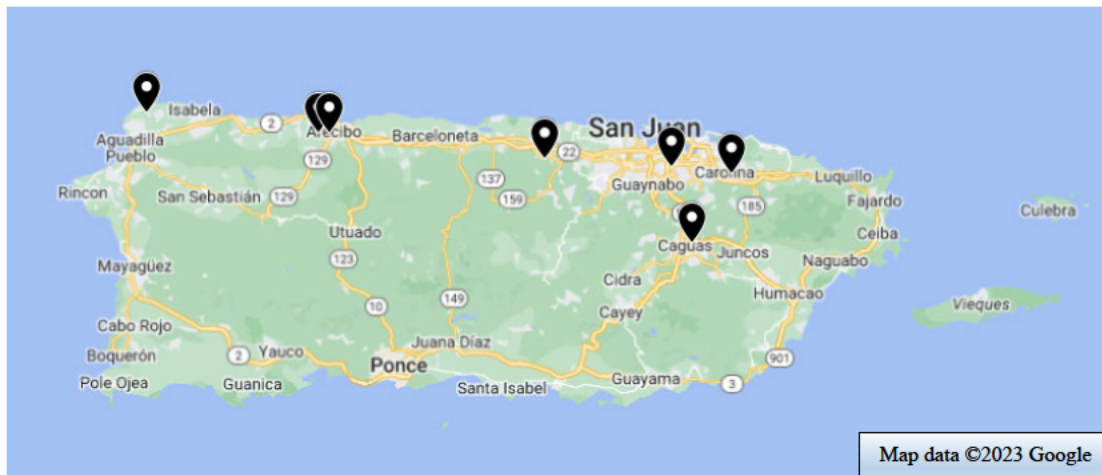
A. PFAS has Contaminated the Commonwealth's Drinking Water and is Harmful to the Health of its Citizens.

77. The Commonwealth has a population of roughly 3.2 million people. In 2020, the Commonwealth's citizens used 602 million gallons of freshwater each day. The Commonwealth's water supply is comprised of approximately of 90% surface water and 10% groundwater, but varies significantly between municipalities. For example, San Juan's water supply is 100% groundwater, while Ponce's supply is 81.7% surface water and 18.3% groundwater.

78. The Commonwealth has some of the highest rates globally for preterm birth, infant mortality, early-onset puberty, obesity, and metabolic syndrome. Based on growing evidence of the harmful effects of environmental contaminants on wildlife and humans, research has linked environmental contaminants to these elevated adverse health outcomes in the Commonwealth for decades.

79. In 2021, a study tested drinking water from several locations throughout the Commonwealth for contaminants, including PFAS.¹⁶ The study tested seven commercial and seven domestic locations. Out of these fourteen locations, seven had troubling levels of PFAS, ranging from .8 ppt to 35.4 ppt.

80. The approximate locations where drinking water was tested and found to contain PFAS are depicted in the map below:



81. PFAS has contaminated the Commonwealth's natural resources, including its soil, sediments, surface water, groundwater, plants, fish and wildlife. This PFAS contamination interferes with the Commonwealth's citizens' use and enjoyment of the natural resources and poses significant risks to human health.

82. The Commonwealth will have to invest significant resources to detect, assess, treat, remediate, and monitor PFAS contamination of the Commonwealth's natural resources. The Commonwealth and its citizens will also ultimately bear the cost to treat drinking water contaminated with PFAS or to find alternative water supplies.

¹⁶ Paul M. Bradley, et al., *Pilot-scale expanded assessment of inorganic and organic tapwater exposures and predicted effects in Puerto Rico, USA*, 788 Science of the Total Env'm. 147721, 2 (2021).

83. On information and belief, PFAS contamination in the Commonwealth was caused by the use, release, spill, transport, storage, disposal, and/or handling of Defendants' AFFF Products at military installations and airports within the Commonwealth.

B. AFFF has Been Stored and Released at Airports in the Commonwealth.

84. Within the Commonwealth are nine airports owned and operated by the Puerto Rico Ports Authority: (1) the Rafael Hernández Airport in Aguadilla (BQN); (2) the José Aponte de la Torre Airport in Ceiba (NRR); (3) the Benjamín Rivera Noriega Airport in Culebra (CPX); (4) the Mercedita Airport in Ponce (PSE); (5) the Fernando Luis Ribas Dominicci Airport in San Juan (SIG); (6) the Antonio Rivera Rodríguez Airport in Vieques (VQS); (7) the Eugenio María de Hostos Airport in Mayagüez (MAZ); (8) the Antonio (Nery) Juarbe Pol Airport in Arecibo (ABO); and (9) the Dr. Hermenegildo Ortiz Quinones Airport in Humacao (X63). Additionally, the Luis Muñoz Marín International Airport in San Juan/Carolina (SJU) is currently operated by Aerostar Airport Holdings under a lease granted by the Commonwealth.

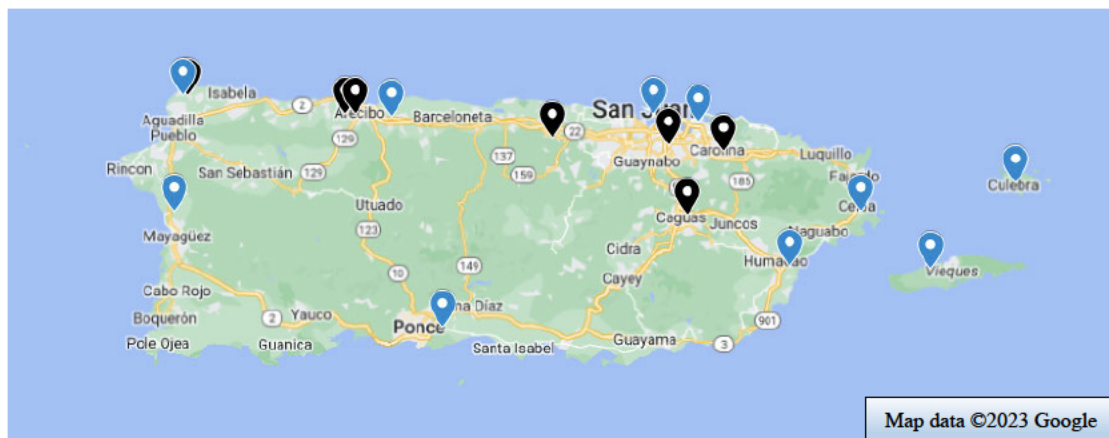
85. Airports in the Commonwealth lie on the coastline, usually in or near larger municipalities. Below is an aerial photo of Luis Muñoz Marín International Airport, the Commonwealth's largest airport, near its largest city, San Juan:



Source: Interlink, available at <https://www.interlinkpr.com/our-work-collection/luis-muoz-marin-international-airport>

86. Of these ten airports, three are currently certified by FAA under 14 CFR Part 139, and require the use of MILSSPEC AFFF: the Rafael Hernández Airport in Aguadilla (BQN); the Mercedita Airport in Ponce (PSE); and the Luis Muñoz Marín International Airport in San Juan/Carolina (SJU).¹⁷ On information and belief, AFFF has been used and released at several, if not all, of the above airports within the Commonwealth.

87. The following image depicts the approximate location of the ten airports within the Commonwealth (blue pins) in comparison to the testing sites found to have PFAS contaminated drinking water (black pins):



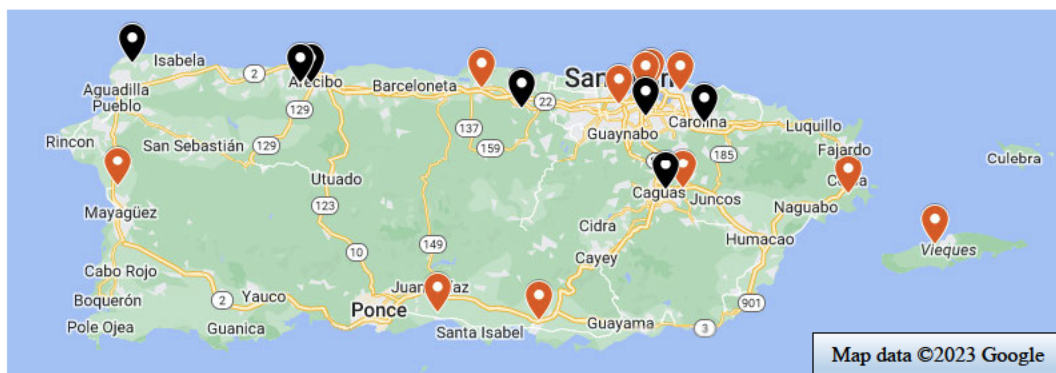
88. On information and belief, AFFF used at airports within the Commonwealth has contaminated the Commonwealth's natural resources, including its surfaces, groundwater, soil and sediment with PFAS. The Commonwealth has and will continue to incur significant costs to investigate, monitor, and remediate the PFAS contamination at and around the Commonwealth's airports.

¹⁷ Federal Aviation Administration National Part 139 Airport Certification Status List (Mar. 23, 2023), available at https://www.faa.gov/airports/airport_safety/part139_cert/part_139_airport_certification_status_list.

C. PFAS Contamination Has Been Documented on Military Installations Within the Commonwealth.

89. During its history, the Commonwealth has hosted several United States military installations and has been subject to significant environmental contamination, including PFAS contamination. The Department of Defense has identified at least eleven military installations in the Commonwealth to assess for PFAS use or potential release: (1) Luis Muñoz Marín International Airport National Guard Base (Air Force) in San Juan/Carolina (“Luis Marín Base”); (2) Roosevelt Roads (Navy) near Aguas Claras; (3) the Vieques Naval Training Range (Navy) in Vieques; (4) the San Juan MCRC (Navy) in San Juan; (5) the Puerto Rico Army Aviation Support Facility (Army) in San Juan; (6) Camp Santiago Joint Maneuver Training Center (Army) near Salinas; (7) the Vega Baja Readiness Center (Army) in Vega Baja; (8) the Mayagüez Readiness Center (Army) in Mayagüez; (9) the Gurabo Readiness Center (Army) in Gurabo; (10) Fort Buchanan (Army) near San Juan; and (11) Fort Allen (Army) in Juana Díaz.¹⁸

90. The image below depicts the approximate location of the eleven military installations (red pins) in comparison to the testing sites already found to have PFAS contaminated drinking water (black pins):



¹⁸ Department of Defense, *Progress at the 706 Installations Being Assessed for PFAS Use or Potential Release*, Progress as of Dec. 31, 2022, available at <https://www.acq.osd.mil/eie/ee/ecc/pfas/docs/data/DoD-PFAS-Progress-31DEC2022.pdf>.

91. The December 2022 Department of Defense progress report indicates that remediation investigations have been planned for Fort Buchanan and for the Luis Marín Base. Both of these military installations are near San Juan, the Commonwealth's capital and largest city.

92. The 2019 Site Inspection Report prepared for the Department of Defense regarding PFAS contamination at the Luis Marín Base showed alarmingly high levels of PFOA and PFOS in both groundwater and surface water. Groundwater tested showed levels of PFOS ranging from 110 ppt to 11,000 ppt and levels of PFOA ranging from 37 ppt to 2,300 ppt. Likewise, surface water tested showed levels of PFOS between 6.4 ppt and 3,900 ppt and levels of PFOA between 1.6 ppt and 570 ppt.

Table 8. Summary of Groundwater and Surface Water Analytical Results for Muñoz ANGB

Analyte						Perfluorooctanesulfonic Acid (PFOS)	Perfluorooctanoic Acid (PFOA)	PFOS+PFOA	Perfluorobutanesulfonic Acid (PFBS)	Perfluorooheptanoic Acid (PFHpA)	Perfluorohexanesulfonic Acid (PFHxS)	Perfluorononanoic Acid (PFNA)
LHA ^a						70	70	70	NA	NA	NA	NA
EPA RSL Tap Water ^b						NA	NA	NA	400,000	NA	NA	NA
PRL ^c	Location	Sample Identifier	Sample Date	Screened Interval (ft BGS)	Sample Type	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Groundwater												
1	MW08-07	MW08-07-PRL01-01	05/31/19	3.95 – 13.95	REG	110	80	190	4.6	37	32 U	7.1
	MW-SJU01-01	MW-SJU01-01-01	06/03/19	3.25 – 13.25	REG	270	180	450	230	55	380	10
2	TU018-MW004	TU018-MW004-PRL02-01	06/03/19	3 – 13	REG	2,900	2,300	5,200	68	2,600	4,100	400
3	MW-SJU03-01	MW-SJU03-01-01	06/03/19	1.7 – 11.7	REG	7,000	1,200	8,200	150	580	1,500	45
	TU018-MW003	TU018-MW003-PRL03-01	05/31/19	3 – 13	REG	5,400	2,000	7,400	98 U	1,400	2,200	140
4	TU018-MW002	TU018-MW002-PRL04-01	05/31/19	2.46 – 12.46	REG	11,000	520	11,520	130	720	1,400	48
7	MW-SJU07-01	MW-SJU07-01-01	05/31/19	2.7 – 12.7	REG	110	37	147	8.3	38	180	4
		MW-SJU07-01-01D	05/31/19	2.7 – 12.7	FD	110	38	148	8	39	170	4.1
	MW-SJU07-02	MW-SJU07-02-01	06/03/19	2.07 – 12.07	REG	160	49	209	8.9	21	150	1.3 J
8	MW-SJU08-01	MW-SJU08-01-01	05/31/19	2.5 – 12.5	REG	1,100	70	1,170	15	54	630	7.3
Surface Water												
9	SJU09-SW1	SJU09-SW1-01	05/29/19	NA	REG	61	6.4	67.4	14	11	27 U	0.97 J
10	SJU10-SW1	SJU10-SW1-01	05/30/19	NA	REG	3,900	29 J	3,929	32 J	120 J	230	5.9
		SJU10-SW1-01D	05/30/19	NA	FD	1,000	13	1,013	13	31	97	1.7 J
11	SJU11-SW1	SJU11-SW1-01	05/29/19	NA	REG	520	570	1,390	36	930	1,300	130
12	SJU12-SW1	SJU12-SW1-01	05/29/19	NA	REG	6.4	1.6 J	8.0	0.94 U	1 J	2.9 U	0.59 J

Table 8, *Site Inspection Report for Perfluorooctane Sulfonate and Perfluorooctanoic Acid at Luis Muñoz Marín International Airport Carolina, Puerto Rico*, October 2019.

93. PFAS contamination from the release and storage of AFFF at the Luis Marín Base is devastating, not only in the sheer quantity of contamination, but also in the impact on the citizens of the Commonwealth.

94. The Luis Marín Base is a mere 3 miles from San Juan, the Commonwealth's largest city, with a population of 334,776. Groundwater is the sole drinking water supply for the entire city. On information and belief, PFAS contamination from AFFF used at the Luis Marín Base has contaminated the Commonwealth's groundwater water, impacting hundreds of thousands of the Commonwealth's citizens.

95. The Commonwealth has incurred and will continue to incur significant costs to investigate and treat drinking water contaminated from AFFF Products used at the Luis Marín Base. The PFAS contamination will have significant impacts on human health and other natural resources in the Commonwealth, including plants, fish, and wildlife.

96. On information and belief, AFFF was used and/or stored at several, if not all, of the identified military installations in the Commonwealth, and resulted in PFAS contamination in the Commonwealth's soil, sediments, groundwater and surface water.

97. The Commonwealth has expended significant funds to investigate PFOS and PFOA contamination. The Commonwealth's investigation is ongoing, and the Commonwealth may identify additional areas within the Commonwealth where AFFF was stored and used, and additional areas of contamination within the Commonwealth as the investigation continues.

98. To date, the Commonwealth has invested considerable monetary and non-monetary resources to investigate the presence of PFAS in the Commonwealth and to develop plans for removal and remediation, and it reasonably anticipates these costs will continue and grow over time.

99. On information and belief, PFAS contamination within the Commonwealth could have been significantly reduced or avoided had Defendants taken action decades ago when they first knew of the environmental and health risks associated with PFAS chemicals.

IV. Defendants' History of Manufacturing and Selling AFFF Products.

100. The development of the PFAS class of chemicals began in the 1940s with 3M. 3M's Central Research Laboratory was working with a scientist at Penn State University, Joseph H. Simons, who had developed and patented a process of preparing fluorine compounds through electrochemical fluorination ("ECF"). Simons assigned his patent to 3M.

101. In the 1960s, 3M used its patented ECF process to develop AFFF. 3M's ECF-based AFFF contains both PFOS and PFOA. 3M was the sole supplier of AFFF from the mid-1960s until 1973. 3M continuously manufactured and sold ECF-based AFFF from the mid 1960s through 2001. 3M voluntarily stopped producing its ECF-based AFFF in 2002 after reaching an agreement with the EPA in 2000.

102. In 1973, other Defendant manufacturers began entering the AFFF market. Besides 3M, all other Defendants' AFFF Products were produced using fluorotelomerization ("FT"). FT-based AFFF contain polyfluorinated compounds that degrade into compounds that include PFOA. From 1973 onward, FT-based AFFF manufacturers were included on the U.S. military qualified products list and could directly compete with 3M.

103. FT-based AFFF manufacturers National Foam and Ansul/Tyco entered the AFFF market in the 1970s; Angus/Tyco and Chemguard in the 1990s; Kidde and Buckeye in the 2000s; and Fire Service Plus and Amerex in the 2010s. After 3M left the AFFF market in 2002, FT-based AFFF manufacturers continued to manufacture, market, and promote AFFF.

104. Arkema's predecessors and Chemguard's predecessor Ciba began supplying fluorosurfactants used to manufacture AFFF beginning in the 1970s and Dynax supplied

fluorosurfactants used to manufacture AFFF beginning in the 1990s. Chemguard continued supplying fluorosurfactants after acquiring Ciba's fluorosurfactants business in 2003. Arkema was created in 2004 and continued supplying fluorosurfactants manufactured by its predecessors in interested.

105. In 2002, DuPont bought Elf Atochem North America, Inc.'s fluorosurfactants business and supplied fluorosurfactants used to manufacture AFFF. Following Chemours' spin-off from DuPont in 2015, Chemours supplied fluorosurfactants used to manufacture AFFF. DuPont's decision to enter the fluorosurfactants market in 2002 is particularly interesting. At that at this point, 3M had already voluntarily left the market after reaching agreement with the EPA. Additionally, as detailed below, DuPont made the decision to enter the market having decades of evidence that PFAS were harmful to human health and the environment.

106. On information and belief, at various times between 1973 and present, AGC Chemicals; Archroma; Chemicals, Inc.; Clariant; Nation Ford; Chem Design; Deepwater Chemicals; DuPont; and 3M supplied fluorochemicals that were used to make AFFF.

107. On information and belief, AFFF Products manufactured by Defendants other than 3M are fungible. Once the AFFF has been released in the environment, it lacks traits that would make it possible to identify the original manufacturer of the AFFF or its component parts. A contamination site may originate from mixed batches of AFFF coming from different AFFF manufacturers and containing component parts from different fluorosurfactants and fluorochemical manufacturers. For that reason, the Commonwealth must pursue all Defendants jointly and severally.

108. On information and belief, Defendants are also jointly and severally liable because they conspired to conceal the true toxic nature of PFOS and PFOA in order to profit from the use of AFFF Products and to avoid liability.

109. While some Defendants have stopped manufacturing AFFF or transitioned to manufacturing F3, they did not tell customers that they should not use AFFF Products that contain PFOS, PFOA and/or their precursors. Nor did they act to get these products off the market and out of customers' stockpiles. Some research has indicated that AFFF may have a shelf life of up to 25 years. Therefore, AFFF containing PFOS and PFOA may still be included in customers' stockpiles and may still be being released into the environment.

V. Defendants Knew or Should Have Known That Their AFFF Products Were Harmful to the Environment and Human Health.

A. 3M and DuPont Knew of the Harms to Human Health and the Environment from PFAS as Early as the 1950s.

110. As early as 1948, 3M understood that the stability of the carbon-to-fluorine bonds prevented the fluorinated compounds from undergoing further chemical reactions or degrading under natural processes in the environment. The 1948 patent for the ECF process, which was assigned to 3M, stated that the compounds produced through ECF are non-corrosive, of little chemical reactivity, and do not react with any of the metals at ordinary temperatures and react only with the more chemically reactive metals at elevated temperatures.

111. The patent application also stated that ECF compounds were thermally stable at temperatures up to 750° C (1382° F) and that the fluorochemicals produced by ECF do not react with other compounds due to the blanket of fluorine atoms surrounding the carbon skeleton of the molecule.

112. In 1951, before manufacturing AFFF, 3M began producing PFAS chemicals for DuPont for use in its Teflon products. Between this time and the mid-1960s when 3M

manufactured and sold AFFF, it had knowledge that PFAS contained in its ECF-produced fluorochemicals could cause significant harm to human health and the environment.

113. In 1950, 3M's research had already documented that PFAS accumulate in the blood of mice exposed to the chemicals in laboratory tests. A 1956 study by researchers at Stanford University also found that PFAS bind to proteins in human blood.

114. In 1963, 3M issued a technical manual for 3M Brand Fluorochemical Surfactants, where it recognized that certain PFAS chemicals, including PFOS were toxic. The manual warned that due care should be exercised in handling these materials.

115. In 1964, a mere year later, a group of DuPont employees working in Teflon manufacturing became sick after their department was moved to a more enclosed workspace. They experienced chills, fever, difficulty breathing, and a tightness in the chest—symptoms referred to variously as “polymer-fume fever,” “Teflon flu,” or simply, “the shakes.” Polymer-fume fever was first reported in the medical literature in 1951. A 1965 study sponsored by DuPont found liver damage and increased spleen size in rats fed a PFAS compound over a ninety-day period.

116. In addition to these demonstrations of toxicity, additional research and testing performed by 3M indicated that fluorosurfactants were resistant to environmental degradation and would persist essentially unaltered if allowed to enter the environment. One 3M employee wrote in 1964, “This chemical stability also extends itself to all types of biological processes; there are no known biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon.”¹⁹ Thus, 3M knew by the mid-1960s that its fluorosurfactants were immune to chemical and biological degradation in soils and groundwater.

¹⁹ H.G. Bryce, *Industrial and Utilitarian Aspects of Fluorine Chemistry*, 310 (1964), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3022.pdf>.

117. In short, before AFFF ever entered the market, 3M and DuPont were aware that PFOS and PFOA presented significant risks to human health and the environment. Despite this knowledge, 3M chose to sell AFFF without warning its customers or regulators.

B. Defendants' Evidence of the Harms of PFOA and PFOS Continued Mounting After FT-AFFF Manufacturers Entered the Market in the 1970s and 1980s.

118. In 1973, just as FT-AFFF manufacturers started entering the market, DuPont scientists issued results from a study showing that PFOA caused adverse liver reactions in rats and dogs.

119. Two years later, 3M was notified by two independent toxicologists that an unidentified fluorine compound was found in human blood sampled from different blood banks. 3M was contacted to see if it knew of “possible sources” of the chemicals. 3M’s scientists concluded internally that the fluorine compounds resembled PFAS manufactured by 3M, but 3M did not share this conclusion with the independent toxicologists or anyone else outside of 3M.

120. Although 3M did not inform anyone outside of the company, it did test the blood of its own workers in 1976, finding up to 1000 times “normal” amounts of organically bound fluorine in their blood. 3M also failed to report these results to the public or to take any steps to remove its PFOA and PFOS products, including AFFF, from the market.

121. A year later, Ansul (later acquired by Tyco) authored a report titled “Environmentally Improved AFFF,” which acknowledged that releasing AFFF into the environment could pose potential negative impacts to groundwater quality.²⁰ Ansul wrote: “The purpose of this work is to explore the development of experimental AFFF formulations that would exhibit reduced impact on the environment while retaining certain fire suppression

²⁰ The Ansul Co., *Final Report: Environmentally Improved AFFF*, N00173-76-C-0295 (Dec. 13, 1977), at 2, available at <https://apps.dtic.mil/sti/pdfs/ADA050508.pdf>.

characteristic.” Thus, Ansul knew by the mid-1970s that the environmental impact of AFFF needed to be reduced, yet there is no evidence that Ansul/Tyco (or any other Defendant manufacturer) ever pursued initiatives to do so.

122. In 1978 through 1979, 3M initiated studies focused on the persistence of PFAS in the environment. One study reported that 3M’s PFAS was likely to persist in the environment for extended period unaltered by metabolic attack. A year later, a 3M study reported that one of 3M’s fluorosurfactants was found to be completely resistant to biological test conditions, and that it appeared waterways were the fluorosurfactant’s “environmental sink.”²¹

123. At the same time, 3M sponsored several studies that showed that the fluorosurfactants used in AFFF were even more toxic than previously believed. A study of subacute toxicity in rhesus monkeys, in which the monkeys were to be given doses of PFOS over ninety days, had to be redesigned and repeated because of the unexpected early death of all monkeys in all test groups. None of the monkeys survived past twenty days. A summary of the study stated that PFOS proved to be considerably more toxic to monkeys than anticipated. In addition, PFOA was found to reduce the survival rate of fathead minnow fish eggs, and PFOS and PFOA were shown to be toxic to rats. As the study summary observed, the most important question still remained—the long-term effects of these persistent fluorochemicals.

124. In 1979, 3M also completed a comprehensive biodegradation and toxicity study covering investigations between 1975 and 1978.²² More than a decade after 3M began selling AFFF, it wrote, “there has been a general lack of knowledge relative to the environmental impact

²¹ 3M Technical Report Summary from A.N. Welter to R.A. Prokop on Fate of Fluorochemicals, Final Comprehensive Report on FM 3422 (Feb. 7, 1979), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2563.pdf>.

²² *Id.*

of these chemicals.” The report asked, “If these materials are not biodegradable, what is their fate in the environment?”

125. In 1979, 3M and DuPont discussed 3M’s discovery of high levels of PFOS in the blood of its workers. Both companies came to the same conclusion: there was “no reason” to notify the EPA of the finding. 3M told the EPA in 1980 only that it had discovered PFOS in the blood of “some of our plant employees.”

126. Although Defendants did not report their findings to regulators or the public, they continued to internally study PFAS’s impacts on the environment and human health and continued to find troubling results. By the end of the 1980s, 3M and DuPont (and possibly other Defendant manufacturers) had knowledge that at least PFOA was associated with elevated incidences of certain cancers; elevated liver enzymes; and birth defects in exposed workers.

127. In April 1981, a 3M study showed that exposure to PFOA affected eye development in fetuses of rats. Based on these results, 3M reassigned women workers so they would not continue to be exposed to fluorochemicals that can cause birth defects. 3M advised DuPont of these results in April 1981, and later that year DuPont also decided to exclude women from areas where they would be potentially exposed to PFOA and PFOS. By December 1981, DuPont had observed and documented birth defects in children born to exposed female workers.

128. In 1984, 3M documented a trend of increased PFOS in the blood of 3M workers. The report concluded that this trend must be taken seriously as it possibly showed that the uptake of PFAS from exposure may outpace excretion capabilities of the body. Around that same time, 3M completed a study finding that PFOS caused the growth of cancerous tumors in rats. This

finding was shared with DuPont in 1988 and led DuPont to consider whether the company was required to call PFOA a carcinogen in animals under its current policy.

129. On information and believe, the information 3M and DuPont gathered on human health risks from PFOA and PFOS was not reported to the public or regulators.

130. At this same time, 3M and DuPont researchers were gathering more evidence of risks to the environment from PFOA and PFOS. In 1983, 3M researchers concluded that PFAS raises concerns about environmental safety, including their persistence, accumulation potential, and toxicity in the environment. In 1984, DuPont secretly tested drinking water near its Teflon plant in Parkersburg, West Virginia and found the presence of PFOA.

131. On information and believe, the information 3M and DuPont gathered on environmental risks from PFOA and PFOS was also not reported to the public or regulators.

C. As PFOA and PFOS Come Under Regulatory Scrutiny in the 1990s and 2000s, Defendant Manufacturers Continue to Downplay and Conceal the Harms to Human Health and the Environment.

132. Federal law requires chemical manufacturers and distributors to immediately notify the EPA if they have information that “reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.” Toxic Substances Control Act (“TSCA”) § 8(e), 15 U.S.C. § 2607(e). This reporting requirement has been included in the TSCA since its enactment in 1976. *See* Pub. L. 94-469, Title I, § 8, Oct. 11, 1976, 90 Stat. 2027.

133. Despite decades of research, 3M waited until May 1998 to submit a report to the EPA under TSCA Section 8(e) regarding the potential environmental impacts of PFAS. However, even in that submission, 3M downplayed what it knew. According to a former 3M employee:

Just before that submission we found PFOS in the blood of eaglets—eaglets still young enough that their only food consisted of fish caught in remote lakes by their parents. This finding indicates a widespread environmental contamination and food chain transfer and probable bioaccumulation and bio-magnification. This is a very significant finding that the 8e reporting rule was created to collect. 3M chose to report simply that PFOS had been found in the blood of animals, which is true but omits the most significant information.²³

134. In 2000, after a half-century of manufacturing fluorinated chemicals through ECF, 3M announced that it would phase out its production of several long-chain PFAS compounds, including PFOA and PFOS. Even then, however, 3M downplayed the risks associated with PFOA and PFOA, stating in its press release that its products were safe and that the presence of these materials at low levels do not pose a risk to human health or the environment.

135. In April 2006, 3M agreed to pay EPA a penalty of more than \$1.5 million after being cited for 244 violations of the TSCA, which included violations dating back decades for failing to disclose studies regarding PFOS, PFOA, and other fluorinated compounds.²⁴

136. The late 1990s and early 2000s also brought scrutiny to DuPont’s use of PFOA. Beginning in 1999, DuPont faced lawsuits filed by residents of the Mid-Ohio Valley over contamination from DuPont’s Washington Works plant near Parkersburg, West Virginia. As part of the settlement of those actions, a panel of scientists was created to examine the health effects of PFOA, called the “C8 Science Panel.” Between 2005 and 2013, the C8 Science Panel carried out exposure and health studies in the Mid-Ohio Valley communities. The panel found probable links between PFOA and kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, pregnancy-induced hypertension (including preeclampsia), and hypercholesterolemia.

²³ Letter from R. Purdy to 3M Re: Resignation (Mar. 28, 1999) available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1001.pdf>.

²⁴ EPA, *3M Company Settlement* (Apr. 25, 2016), available at [https://www.epa.gov/enforcement/3m-company-settlement#:~:text=\(Washington%2C%20D.C.%20%2D%20April%2025,company%20voluntarily%20disclosed%20to%20EPA](https://www.epa.gov/enforcement/3m-company-settlement#:~:text=(Washington%2C%20D.C.%20%2D%20April%2025,company%20voluntarily%20disclosed%20to%20EPA) (last accessed May 22, 2023).

137. In December 2005, the EPA reached a settlement with DuPont related to violations of the TSCA for concealing the environmental and health effects of PFOA.²⁵ The settlement included the largest civil administrative penalty the EPA had ever obtained under any environmental statute, \$10.25 million dollars, as well as requiring DuPont to perform Supplemental Environmental Projects worth \$6.25 million.

138. In 2001, Defendants Tyco, Chemguard, Kidde, National Foam, and Buckeye formed a group called the Fire Fighting Foam Coalition (“FFFC”) to protect their business opportunity and advocate for the continued use of FT-based AFFF. Other Defendants have joined FFFC, including Dynax and Fire Service Plus. The FFFC declared that it would serve as a source for accurate, balanced information on environment related questions and would ensure that accurate information about PFOS alternatives, including telomer-based products, is disseminated in the marketplace.

139. The FFFC made several representations regarding the safety of FT-based AFFF that were either misleading half-truths or were contrary to Defendants’ internal knowledge. For example, the FFFC assured the public that “telomer based AFFF does not contain PFOS and cannot be oxidized or metabolized into PFOS.”²⁶ This statement was at best a half-truth, because PFOS was exclusively manufactured by 3M, and it did not mean that FT-based AFFF was any safer.

140. The FFFC also told the EPA in 2001 that FT-based AFFF “does not contain any PFOA-based product.”²⁷ The issue, however, was whether telomer-based AFFF could degrade

²⁵ EPA, *E.I DuPont de Nemours and Company PFOA Settlements*, available at <https://www.epa.gov/enforcement/ei-dupont-de-nemours-and-company-pfoa-settlements> (last accessed May 22, 2023).

²⁶ *In re Aqueous Film-Forming Foams Prod. Liab. Litig.*, dkt. 2063-70 (D.S.C. Dec. 22, 2021) (Exhibit AFFF Fire Fighting Foams, EPA Meeting (Sept, 28, 2001)).

²⁷ *Id.*

into PFOA. One company executive admitted in an internal memo that his company's AFFF "will degrade in the environment" to produce PFOA and the "question is how toxic" and how "bioaccumulative" these degraded products are.²⁸ But contrary to this internal acknowledgment, the FFFC publicly asserted that "telomer based fire fighting foams are not likely to be a source of PFOA in the environment."²⁹

141. The EPA appointed a committee known as the Telomer Technical Workgroup to make recommendations to the agency. The president of the FFFC represented the FT-based AFFF industry on the EPA committee. When, in 2003, the Telomer Technical Workgroup reported its conclusions and recommendations, the FFFC president was the spokesperson.

142. In what the FFFC president called a "major victory" for the industry, the EPA accepted the proposal of its Workgroup that "telomer-based fire fighting foams no longer be considered as part of the PFOA ECA process."³⁰ The FFFC president remarked that "[w]hen we started this organization two years ago [in 2001], the fate of telomer based AFFF was being tied directly to the fate of PFOA and the EPA had just told the military to start searching for alternatives to AFFF."³¹ The FT-based AFFF Defendants had successfully forestalled government restrictions on their products, thereby prolonging the use of AFFF in the United States.

143. All Defendants knew, or at the very least should have known, that when used as intended, AFFF Products that contain or breaking down into PFOS or PFOA would harm the environment and human health.

²⁸ *Id.* at dkt. 2409-112 (D.S.C. Jun. 17, 2022) (Exhibit Email from David Spring to John Dowling, Kidde-Fenwal, Inc. RE:EPA Meeting Comments (Apr. 18, 2001)).

²⁹ *Id.* at dkt. 2409-108 (D.S.C. Jun. 17, 2022) (Exhibit Memo from Tom Cortina, FFFC President to Members (Oct. 30, 2003)).

³⁰ *Id.*

³¹ *Id.*

144. Defendants were all sophisticated and knowledgeable in the art and science of designing, formulating, and manufacturing AFFF Products. They understood far more about the properties of their AFFF Products—including the potential hazards they posed to human health and the environment—than the public. Still, Defendants declined to use their sophistication and knowledge to design safer products or to warn the public of the risks of AFFF Products.

145. Defendants knew, or at the very least should have known, that their AFFF Products released PFOS and/or PFOA and/or their chemical precursors into the environment and that those contaminants would travel through water systems, resist degradation, and bioaccumulate and bio-magnify, resulting in harm to plants, fish, wildlife, and human health.

146. Instead of disclosing information about the known harms of their AFFF Products, Defendants consistently and actively fraudulently concealed and denied those harms throughout the time period relevant to this action. Due to this fraudulent concealment, the Commonwealth did not discover or know facts that would cause a reasonable person to suspect the risks of use associated with AFFF and the impact on the natural resources and the health of the Commonwealth's citizens caused by PFAS contamination until very recently.

FIRST CAUSE OF ACTION
Public Nuisance 32 L.P.R.A. § 2761.

147. The Commonwealth incorporates by reference the foregoing allegations.

148. The natural resources of the Commonwealth including surface and groundwater, soil, plants, fish, and wildlife are precious and invaluable public resources. These natural resources are public goods that are inalienable, unseizable, and imprescriptible.

149. The Commonwealth owns and maintains its natural resources in trust for the benefit of its citizens. The protection of these resources from environmental contamination and

ensuring the free use of Commonwealth's environmental resources by its citizens are essential public functions and public rights.

150. Defendants manufactured, marketed, distributed, and sold their AFFF Products in a manner that created or contributed to the creation of a public nuisance that is injurious to health, threatens the wellbeing of all citizens, and interferes with the free use and enjoyment of the Commonwealth's natural resources.

151. When used as intended, Defendants' AFFF Products release large amounts of PFAS into the environment. PFAS is injurious to the health of the Commonwealth's citizens, threatens the wellbeing of all citizens, and interferes with the comfortable enjoyment of life and the public goods of the Commonwealth.

152. Defendants knew or should have known that PFAS were toxic to human health and the environment and that when AFFF is used as intended it directly introduces those toxic chemicals into the environment.

153. Defendants knew or should have known that their AFFF Products, as ordinarily used, would likely end up contaminating the Commonwealth's surface and groundwater, soils, sediments, plants, fish, wildlife and other natural resources.

154. The seriousness of the human and environmental risks posed by PFAS far outweigh any social utility of Defendants' conduct.

155. The rights, interests, and inconvenience to the Commonwealth and general public far outweigh the rights, interests, and inconvenience to Defendants.

156. The Commonwealth is incurring and will continue to incur significant costs to investigate, monitor, analyze, treat, and remediate PFAS contamination in its groundwater,

surface water, soils, sediments and other natural resources. The Commonwealth and its citizens will also ultimately incur the costs to treat drinking water and wastewater to remove PFAS.

157. As a result of Defendants' conduct, the Commonwealth suffers, and will continue to suffer, injuries to the public interest and to the health and well-being of its environment.

158. Defendants knew or, in the exercise of reasonable care, should have known that the manufacture, sale, use, and/or disposal of their AFFF Products would cause contamination of the environment, including the Commonwealth's natural resources and public water systems.

159. Defendants had a duty to conduct their businesses, including the manufacture, distribution, sale, and promotion of AFFF Products without directly misrepresenting or concealing the dangers of PFAS and in a manner that did not interfere with the Commonwealth's and its residents' use and enjoyment of their natural resources, including their waterways.

160. Defendants are under a continuing duty to act to correct and remediate the injuries their conduct has caused, and to warn the Commonwealth and its residents about the human health and environmental risks posed by their AFFF Products and each day on which they fail to do so constitutes new tortious conduct and injury to the Commonwealth.

161. While some Defendants have stopped manufacturing AFFF Products, their tortious conduct and injuries flowing from that conduct continue as Defendants know that their AFFF Products have an extensively long shelf life and that customers maintain stockpiles of AFFF that may still be released into the environment. Even with this knowledge, Defendants have taken no action to warn of the harms, recall their AFFF Products, remediate existing contamination, or prevent future contamination.

162. PFAS contamination within the Commonwealth has gone unabated, and Defendants have substantially contributed to the continuing unabated nuisance. Until the public

nuisance is abated and the PFAS contamination of the Commonwealth's surface, groundwater, soil, sediments and other natural resources are fully remediated, Defendants are liable for the creation and continued maintenance of a public nuisance.

163. As a direct and proximate result of Defendants' creation of a public nuisance, PFAS contamination has created an extraordinary and unjust financial burden on the Commonwealth and its citizens.

164. The Commonwealth has suffered, and will continue to suffer, monetary damages, including loss of value and loss of use of the Commonwealth's natural resources and water systems, and the costs to investigate, test, remediate, cleanup, restore, remove, treat, and monitor PFAS contamination in the Commonwealth's surface and groundwaters, soils, sediments, plants, and wildlife for which Defendants are jointly and severally liable.

165. The injuries to the natural resources of the Commonwealth caused by Defendants acts and omissions as alleged herein are indivisible.

166. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to the Commonwealth's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for the health and safety, and/or property rights of the Commonwealth and its citizens.

SECOND CAUSE OF ACTION

Strict Products Liability for Defective Design

167. The Commonwealth incorporates by reference the foregoing allegations.

168. AFFF Products were not reasonably safe as designed at the time they left Defendants' control.

169. AFFF Products are unsafe as designed and are unreasonably dangerous to human health and the environment at all times.

170. Defendants knew or should have known their AFFF Products were not safe and that when AFFF Products were used as designed they were likely to contaminate the environment and pose a threat to human health.

171. Defendants knew or should have known that PFOS and PFOA are highly soluble in water, highly mobile, extremely persistent in the environment, and highly likely to become a persistent pollutant if released into the environment.

172. Defendants manufactured, distributed, marketed, promoted, and sold AFFF Products in order to maximize their profits despite the foreseeable and known harms.

173. Practical and feasible alternative designs capable of reducing the Commonwealth's injuries were commercially feasible.

174. The magnitude of the danger from the release of PFAS into the environment from the use of Defendants' AFFF Products is significant.

175. The magnitude of the dangers from Defendants' AFFF Products outweighs the costs of avoiding the danger.

176. An ordinary consumer would conclude that the Defendants ought to have used alternative designs for the AFFF Products.

177. Defendants knew or should have known that their AFFF Products were unsafe to an extent beyond that which would be contemplated by an ordinary person because of the information and evidence uniquely available to them.

178. AFFF Products were placed in the stream of commerce by Defendants in a defective and unreasonably dangerous condition.

179. It was foreseeable to Defendants that PFAS contaminants would reach and persist in the Commonwealth's waterways and other natural resources causing harm to the environment and human health as a result of the use of their AFFF Products as intended.

180. While some Defendants have stopped manufacturing AFFF Products, their tortious conduct and injuries flowing from that conduct continues as Defendants know that their AFFF Products have an extensively long shelf life and that customers maintain stockpiles of AFFF that may still be released into the environment. Even with this knowledge, Defendants have taken no action to warn of the harms, recall their AFFF Products, remediate existing contamination, or prevent future contamination.

181. Defendants are strictly liable for all damages arising out of their defectively designed AFFF Products.

182. Defendants' defective design of their AFFF Products caused PFAS to reach the Commonwealth's waterways and other natural resources and caused continuing injury to the public interest.

183. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to the Commonwealth's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for the health and safety, and/or property rights of the Commonwealth and/or its citizens.

**THIRD CAUSE OF ACTION
Strict Product Liability for Failure to Warn**

184. The Commonwealth incorporates by reference the foregoing allegations.

185. Defendants knew or should have known their AFFF Products were not safe and that when products were used as designed, they were likely to contaminate the environment and pose a threat to human health.

186. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and highly likely to become a persistent pollutant if released into the environment.

187. The introduction of PFAS into the environment from the ordinary use of Defendants' AFFF Products poses risk of significant harm to the environment and human health.

188. The risks posed from the ordinary use of Defendants' AFFF Products are sufficiently serious to require a warning.

189. Defendants had unique information and evidence available to them that was not available to the consumers or the public at large regarding the harms that their AFFF Products posed.

190. Defendants knew or should have known that their AFFF Products were unsafe to an extent beyond that which would be contemplated by an ordinary person because of the information and evidence uniquely available to them.

191. AFFF Products were placed in the stream of commerce by Defendants without an adequate warning of the harms posed to the environment and human health from the ordinary use of their products.

192. The absence of adequate warnings made the Defendants' AFFF Products inherently dangerous.

193. It was foreseeable to Defendants that PFAS contaminants would reach and persist in the Commonwealth's waterways and other natural resources causing harm to the environment and human health from the use of their AFFF Products as intended.

194. While some Defendants have stopped manufacturing AFFF Products, their tortious conduct and injuries flowing from that conduct continues as Defendants know that their AFFF Products have an extensively long shelf life and that customers maintain stockpiles of AFFF that may still be released into the environment. Even with this knowledge, Defendants have taken no action to warn of the harms, recall their AFFF Products, remediate existing contamination, or prevent future contamination.

195. Defendants are strictly liable for all damages arising out of their failure to warn of the dangers associated with the use of their AFFF Products.

196. Defendants' failure to warn of the dangers associated with the ordinary use of their AFFF Products caused PFAS contamination in the Commonwealth's surface and groundwater, soil, sediments, and other natural resources and caused continuing injury to the public interest.

197. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to the Commonwealth's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for the health and safety, and/or property rights of the Commonwealth and/or its citizens.

**FOURTH CAUSE OF ACTION
Negligence, 31 L.P.R.A. § 5141**

198. The Commonwealth incorporates by reference the foregoing allegations.

199. As manufacturers of AFFF Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to the Commonwealth and to all persons whom its products might foreseeably harm and to exercise due care in the formulation, manufacture, sale, labeling, warning, and use of AFFF Products.

200. Defendants owed a duty to the Commonwealth to act reasonably and not place inherently dangerous AFFF Products into the marketplace when its release into the air, soil, and water was imminent and certain.

201. Defendants breached their duties and directly and proximately caused PFAS to contaminate and threaten the natural resources of the Commonwealth, including its surface and groundwaters and cause the damages alleged herein.

202. Defendants knew or should have known that PFAS were leaching into surface and ground water from AFFF used for firefighting training, emergency response activities, and federally mandated testing of firefighting equipment.

203. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and highly likely to become a persistent pollutant if released into the environment.

204. Defendants knew or should have known that the manner in which they were designing, manufacturing, marketing, distributing, and selling their AFFF Products would result in contamination of the Commonwealth's property with PFAS.

205. Despite the fact that Defendants knew or should have known that PFAS are toxic, can contaminate the environment, and are carcinogenic, Defendants, each of them, negligently:

- a. designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, and/or sold AFFF Products containing PFOS, PFOA, and/or their chemical precursors;
- b. issued deficient instructions on how their AFFF Products should be used and disposed of, thereby permitting PFAS to contaminate soils, sediment, groundwater, and surface water in and around the Commonwealth;
- c. failed to recall and/or warn the users of their AFFF Products of the dangers of groundwater contamination as a result of standard use and disposal of their products;
- d. failed and refused to issue the appropriate warning and/or recalls to the users of their AFFF Products; and
- e. failed to take reasonable, adequate, and sufficient steps or actions to eliminate, correct, or remedy any contamination after it occurred.

206. The magnitude of the burden on the Defendants to guard against this foreseeable harm to the Commonwealth was minimal, as the practical consequences of placing this burden on the Defendants amounted to a burden to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF Products.

207. As manufacturers, Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF Products, and to take steps to eliminate, correct, or remedy any contamination they caused.

208. While some Defendants have stopped manufacturing AFFF Products, their tortious conduct and injuries flowing from that conduct continues as Defendants know that their AFFF Products have an extensively long shelf life and that customers maintain stockpiles of

AFFF that may still be released in the environment. Even with this knowledge, Defendants have taken no action to warn of the harms, recall their AFFF Products, remediate existing contamination, or prevent future contamination.

209. As a direct and proximate result of Defendants' negligence, the Commonwealth has suffered, and will continue to suffer, damage to its property from PFAS contamination requiring investigation, remediation, and monitoring costs for which defendants are jointly and severally liable.

210. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to the Commonwealth's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for the health and safety, and/or property rights of the Commonwealth and/or its citizens.

**FIFTH CAUSE OF ACTION
Trespass, 31 L.P.R.A. § 5141**

211. The Commonwealth incorporates by reference the foregoing allegations.

212. The Commonwealth is the owner and/or actual possessor of property rights and interests in the waters of the Commonwealth, which it holds in trust for the benefit of the public.

213. Defendants designed, manufactured, distributed, marketed, and sold AFFF Products with the actual knowledge and/or substantial certainty that AFFF containing PFOS, PFOA, and/or their chemical precursors would, through normal use, release PFAS that would contaminate soil, sediment, groundwater, and surface water.

214. Defendants negligently, recklessly, and/or intentionally designed, manufactured, distributed, marketed, and sold AFFF Products in a manner that caused PFAS to contaminate the

Commonwealth's property. Defendants also failed to take any precautionary measures or to mitigate such contamination.

215. While some Defendants have stopped manufacturing AFFF Products, their tortious conduct and injuries flowing from that conduct continue as Defendants know that their AFFF Products have an extensively long shelf life and that customers maintain stockpiles of AFFF that may still be released and continue to contaminate the Commonwealth's property. Even with this knowledge, Defendants have taken no action to warn of the harms, recall their AFFF Products, remediate existing contamination, or prevent future contamination.

216. The Commonwealth has not consented to, and does not consent to, this contamination.

217. Defendants knew or reasonably should have known that the Commonwealth would not consent to this contamination, and that they had no right or authority to carry out this trespass.

218. As a direct and proximate result of Defendants' trespass, the Commonwealth has suffered and continues to suffer property damage requiring investigation, remediation, and monitoring costs for which defendants are jointly and severally liable.

219. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to the Commonwealth's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for the health and safety, and/or property rights of the Commonwealth and/or its citizens.

SIXTH CAUSE OF ACTION (DUPONT DEFENDANTS)
Fraudulent Transfer, 6 Del. C. § 1304

220. The Commonwealth incorporates by reference the foregoing allegations.

221. Under Delaware Code Title 6, § 1304:

(a) A transfer made or obligation incurred by a debtor is fraudulent as to a creditor, whether the creditor's claim arose before or after the transfer was made or the obligation was incurred, if the debtor made the transfer or incurred the obligation:

- (1) With actual intent to hinder, delay or defraud any creditor of the debtor; or
- (2) Without receiving a reasonably equivalent value in exchange for the transfer or obligation, and the debtor:
 - a. Was engaged or was about to engage in a business or a transaction for which the remaining assets of the debtor were unreasonably small in relation to the business or transaction; or
 - b. Intended to incur, or believed or reasonably should have believed that the debtor would incur, debts beyond the debtor's ability to pay as they became due.

6 Del. C. § 1304(a).

222. The Commonwealth is a "Creditor" holding "Claims" against DuPont as those terms are defined in Delaware Code Title 6, § 1301.

223. The DuPont Defendants have acted with actual intent to hinder, delay, and defraud DuPont's creditors.

224. Assets and liabilities were transferred between Dupont Defendants, whereby certain DuPont Defendants did not receive a reasonably equivalent value in exchange for the transfer and they were engaged in or about to engage in a business for which the remaining assets were unreasonably small in relation to the business and/or they intended to incur or believed or reasonably should have believed that they would incur debts beyond their ability to pay as the debts became due.

225. On information and belief, the DuPont Defendants engaged in a complicated three-step restructuring of DuPont for the purpose of shielding DuPont's assets from its creditors

such as the Commonwealth, with claims related to PFAS contamination from DuPont's fluorochemicals.

226. On information and belief, at the time of this restructuring, DuPont knew that its liabilities, including clean-up costs, remediation obligations, and damages, arising from its misconduct were likely in the billions of dollars.

227. In the first step of the restructuring, DuPont formed Chemours in 2015 as a wholly-owned subsidiary. On July 1, 2015, DuPont spun Chemours off, transferring DuPont's Performance Chemicals Unit along with a vast amount of environmental liabilities, including those related to PFAS. As part of this transfer, Chemours transferred valuable assets to DuPont, including a \$3.9 billion dividend to DuPont stockholders, for which Chemours incurred additional debt to pay.

228. On information and belief, the Chemours spin-off was not bargained at arm's-length. At the time the spin-off occurred, Chemours had a separate board; however, the board was controlled by DuPont employees.

229. On information and belief, DuPont transferred to Chemours a disproportionately small allocation of assets to cover debts and liabilities. On information and belief, DuPont transferred less than 20% of its business line, but over 66% of its environmental liabilities and 90% of DuPont's pending litigation by volume of cases. These liabilities were taken on by Chemours in addition to the \$3.9 billion in debt it assumed to pay a dividend to DuPont's shareholders. As a result, Chemours did not receive reasonably equivalent value in exchange for the transfer of debts and obligations from DuPont.

230. On information and belief, in its valuation, DuPont purposefully undervalued the potential maximum liability from the PFAS liabilities it transferred to Chemours. At the time of

the spin-off, DuPont had been sued, threatened with suit, and/or had knowledge of the likelihood of litigation to be filed regarding DuPont's liabilities for damages and injuries from the manufacture, sale, and/or disposal of PFAS-containing products. DuPont and Chemours knew or reasonably should have known that Chemours would incur debts beyond its ability to pay as they became due.

231. In the second and third step of restructuring, DuPont sought to further protect its significant assets from PFAS liabilities by first merging itself with Dow and then separating its now comingled assets among three newly created companies: DowDuPont, Inc ("DowDuPont") (which later became New DuPont); Dow, Inc. ("New Dow"), and Corteva.

232. The merger between Dow and Dupont was announced on December 11, 2015. At the same time, it was also announced that the companies intended to subsequently separate the combined companies' business into three publicly-traded companies through further spin-offs.

233. As a result of the merger, Dow and DuPont became wholly-owned subsidiaries of DowDuPont. On information and belief, after the merger, DowDuPont underwent a hidden internal reorganization with the net effect being the transfer of a substantial portion of DuPont's assets out of DuPont. On information and belief, DuPont transferred a substantial portion of its valuable assets to DowDuPont for less than the assets were worth. On information and belief, the transactions were intended to frustrate and hinder creditors with claims against DuPont, including with respect to its substantial PFAS liabilities.

234. As a result of this internal organization, all of Dow and DuPont's assets were reshuffled into three divisions: the Agriculture Business, the Specialty Products Business, and the Material Sciences Businesses.

235. On June 1, 2019, the DuPont Defendants completed the third step the restructuring by spinning off two new publicly traded entities, Corteva and New Dow.³² Generally, assets related to the to the Agriculture Business division were allocated to Corteva; assets related to the Material Science Business were allocated to New Dow; and the assets related to the Specialty Products Business remained with DowDuPont, which then became New DuPont. During this process, DuPont became a wholly-owned subsidiary of Corteva.

236. On information and belief, Corteva and New DuPont assumed responsibility for some of Dupont's historic PFAS liabilities.

237. On information and belief, during the second and third steps of the restructuring plan, Dupont's assets were transferred to Corteva and New DuPont for far less than their value. On information and belief, at the end of these transactions, DuPont divested approximately half of its tangible assets, totaling roughly \$20 billion.

238. The net result of the three-step restructuring was to move DuPont's extensive PFAS liabilities to an underfunded company, Chemours, and to further shield DuPont's extensive assets by merging them with Dow's assets and then transferring them to Corteva and New DuPont for far less than their value.

239. The Commonwealth has been harmed by these transactions, which were designed to shield assets from creditors such as the Commonwealth that have been damaged by DuPont's conduct.

240. The Commonwealth is entitled to void these transactions and to recover property or value transferred. 6 Del. C. § 1307.

³² DuPont, *Frequently Asked Questions: Stockholder Q&A*, available at <https://www.investors.dupont.com/investors/dupont-investors/faq/default.aspx#:~:text=This%20is%20what%20we%20refer,they%20held%20on%20that%20date> (last accessed May 22, 2023).

PRAYER FOR RELIEF

The Commonwealth prays for judgment against Defendants, and each of them, jointly and severally, and respectfully requests the following relief from the Court:

A. An award of compensatory and consequential damages including but not limited to:

i. the full costs related to all past, present, and future investigation, testing, sampling, and assessment, remediation, removal, and other actions necessary to detect, delineate, abate, remove, and remediate PFAS contamination in the Commonwealth's surface water, groundwater, soils, sediments, plants, wildlife and other natural resources and to restore such natural resources to their original condition prior to the contamination;

ii. Compensation for the economic impact to the Commonwealth and its citizens from the loss of ecological services, lost use, and lost value of the Commonwealth's natural resources due to PFAS contamination;

B. An award of any other damages, including punitive or exemplary damages, as permitted by law;

C. A judicial determination that Defendants' conduct constitutes a public nuisance and an order compelling them to abate the nuisance;

D. A grant of appropriate injunctive relief to investigate, abate, and/or mitigate PFAS contamination in the Commonwealth's surface waters, groundwater, soil, sediments and other natural resources;

E. Avoidance of the transfers of assets between the DuPont Defendants;

F. An Injunction against DuPont Defendants from distributing, transferring, capitalizing, or otherwise disposing of any proceeds from the sale of any business lines, segments, divisions or other assets formally belonging to DuPont;

G. An award of costs and attorneys' fees, as permitted by law;

H. An award of pre-judgment and post-judgment interest on all monies awarded, as permitted by law;

I. An award of such other and further relief as the Court deems just and proper.

JURY DEMAND

The Commonwealth respectfully requests trial by jury on all claims so triable.

Respectfully submitted,

Date: May 31, 2023

**DOMINGO EMANUELLI
HERNÁNDEZ
SECRETARY OF JUSTICE
DEPARTMENT OF JUSTICE OF
PUERTO RICO**

By: /s/ Guarionex Díaz Martínez

GUARIONEX DÍAZ MARTÍNEZ

Assistant Secretary

Department of Justice

PO Box 9020192

San Juan, PR 00902-0192

Tel. 787.721.2900

gdiaz@justicia.pr.gov

EDELSON PC

By: /s/ Jimmy Rock

JIMMY ROCK

DAVID MINDELL

SHANTEL CHAPPLE KNOWLTON

1255 Union St NE, 7th Floor

Washington, DC 20002

Tel. 202.270.4777
jrock@edelson.com
dmindell@edelson.com
schappleknowlton@edelson.com

MINER, BARNHILL & GALLAND, P.C.

By:/s/ Robert S. Libman

ROBERT S. LIBMAN
DAVID BALTMANIS
325 N. LaSalle Street, Suite 350
Chicago, IL 60654
(312) 751-1170; Fax (312) 751-0438
rlibman@lawmbg.com
dbaltmanis@lawmbg.com

MIRAMAR GROUP LLC

By:/s/ Carlos J. Sagardía-Abreu

CARLOS J. SAGARDÍA-ABREU
PO Box 10051
San Juan, PR 00908
Teléfono: (787) 934-0805
csagardia@miramargroupllc.com